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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,436	08/01/2003	Michael F. Thomashow	MSU-10661	3828
23535 7590 10/10/2008 MEDLEN & CARROLL, LLP 101 HOWARD STREET SUITE 350 SAN FRANCISCO, CA 94105			EXAMINER KUMAR, VINOD	
			ART UNIT 1638	PAPER NUMBER
			MAIL DATE 10/10/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/632,436	Applicant(s) THOMASHOW ET AL.	
	Examiner Vinod Kumar	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9, 11, 12, 17, 20-24 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) 9, 11 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12, 20-24 and 26-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 17, 2008 and July 23, 2008 have been entered.

Status of Objections and Rejections

2. Claims 9, 11-12, 17, 20-24 and 26-31 are pending. Claims 1-8, 10, 13-16, 18-19 and 25 are previously canceled. Claims 9, 11 and 17 have been withdrawn. Claims 12, 20-24 and 26-31 are examined on merits in the present Office action.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

4. Claims 9, 11, and 17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on August 30, 2005. The restriction was made FINAL in the Office action mailed on November 4, 2005.

This application contains claims 9, 11, and 17 drawn to an invention nonelected with traverse in the reply filed on August 30, 2005. A complete reply to the final

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rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

5. Claims 12 and 26 are objected to because of the following informalities:

Claims 12 and 26 are objected for not reciting “expression of” after “regulating” in line 1.

In claim 12, it is suggested to insert --stress-- before “drought” in line 8.

Claim 26 is objected for lacking the recitation “expresses” after “that” in line 7.

Claim 26 is objected for reciting “in the cold” in line 8 which does not read properly. It is suggested to change “in the cold” to --under a cold stress condition--.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

6. Claims 12, 20-24 and 26-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 and claims dependent thereon are incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. Preamble recites “A method for regulating a drought regulatory gene”, however, the last method step results in the expression of a drought regulatory gene.

Claim 26 and claims dependent thereon are incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. Preamble recites “A method for regulating a cold regulatory gene”, however, the last method step says “cold regulatory gene in the plant at a higher level in the cold”.

Claims 12 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite in their recitation “higher level” in line 8 which is confusing since the term “higher level” is a relative term which renders the claim indefinite. The term “higher level” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The metes and bounds of the term “higher levels” are unclear as they are not defined.

Dependent claims 20-24 and 27-31 are also rejected because they fail to overcome the deficiency of parent claims.

Claim Rejections - 35 USC § 102

7. Claims 12, 20-24 and 26-31 remain rejected under 35 U.S.C. 102(e) as being anticipated by Harper et al. (United States Patent Publication 2002/0160378; filed August 24, 2001) taken with the evidence of Kagaya et al. (Nucleic Acids Research,

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27:470-478, 1999) for the reasons of record stated in the Office action mailed on December 17, 2007.

It is maintained that Harper et al. disclose a transgenic plant and a method of producing said plant comprising transforming a plant cell or plant with a DNA expression cassette comprising a promoter (constitutive, inducible or tissue-specific) operably linked to a coding sequence of SEQ ID NO: 2316 (encoding a DNA binding protein RAV1) which has 100% sequence identity to instant SEQ ID NO: 1. The reference further discloses that over-expression of SEQ ID NO: 2316 induces stress tolerance in said transgenic plant, and wherein said stress includes freezing, drought and other types of environmental stresses. Furthermore, reference also discloses method steps of selecting or screening transgenic plants comprising SEQ ID NO: 2316 with improved abiotic stress tolerance for cold or dehydration. See in particular, page 2, paragraph 0012 and 0017; page 3, paragraph 0020; page 7; paragraph 0039; page 12, paragraph 0067; page 13, paragraph 0079; page 18, paragraph 0109, Also see in particular, page 5, paragraph 0031, page 10, paragraph 0054. Also see claims 29, 33, 35, 46, 47, 49, 51, 52, 53 and 55.

Furthermore, Harper et al. also disclose plant cells or tissues susceptible to infection with *Agrobacterium tumefaciens* that contain and express a chimeric gene comprising a promoter operably linked to SEQ ID No: 2316 which has 100% sequence identity to instant SEQ ID NO: 1. See page 24 and paragraph 0145.

The property of binding to a CAACA sequence is inherent to the sequence taught by Harper et al., as evidenced by Kagaya et al. (page 478, first and second paragraph).

It must be noted that the property of regulating cold and/or drought genes in a plant is also inherent to Harper et al. method of expressing SEQ ID NO: 2316 (100%

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identity to instant SEQ ID NO: 1) encoding a transcription regulating protein in a transgenic plant.

In the paper filed on 08/23/08, Applicant continues to argue that Harper et al. SEQ ID NO: 2316 is identified in Table 7 as being a saline stress responsive sequence. Applicant continues to argue that Harper et al. do not disclose transgenic plants expressing SEQ ID NO: 2316 and which exhibit cold or drought tolerance property. Applicant further argues that cited pages of Harper et al. do not disclose the claimed invention (response, pgs 7-10).

Applicant's arguments are carefully considered but are deemed to be unpersuasive.

As discussed above, it is maintained that the properties of regulating the expression of a drought or cold tolerance gene in a plant are also inherent to Harper et al. method of expressing SEQ ID NO: 2136 in the transgenic plant because the active method steps recited in the instantly claimed methods are structurally identical to the method steps disclosed in Harper et al. method.

Also see *In re Cruciferous Sprout Litig.*, 301 F.3d 1343,1346-48, 64 USPQ2d 1202, 1204-05 (Fed. Cir. 2002) where a claim at issue was directed to a method of preparing a food rich in glucosinolates wherein cruciferous sprouts are harvested prior to the 2-leaf stage. The court held that the preamble phrase "rich in glucosinolates" helps define the claimed invention, as evidenced by the specification and prosecution history, and thus is a limitation of the claim (although the claim was anticipated by prior art that produced sprouts inherently "rich in glucosinolates").

Furthermore, see *Integra LifeSciences I Ltd. V. Merck KGaA* 50 USPQ2d 1846, 1850 (DC Scalif 1999), which teaches that where the prior art teaches all of the required

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steps to practice the claimed method and no additional manipulation is required to produce the claimed result, then prior art anticipates the claimed invention.

Accordingly the rejection is maintained.

Conclusions

8. Claims 12, 20-24 and 26-31 remain rejected.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinod Kumar whose telephone number is (571) 272-4445. The examiner can normally be reached on 8.30 a.m. to 5.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Vinod Kumar/
Examiner, Art Unit 1638